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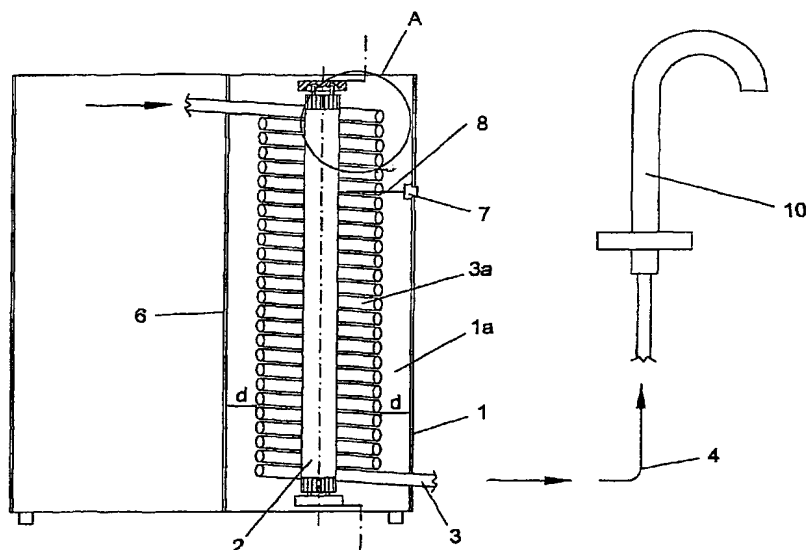
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(54) Title: **IMPROVED APPARATUS FOR THE COLD STERILIZATION OF A FLUID BY ULTRAVIOLET RAYS**



(57) Abstract: An apparatus for the continuous cold sterilization of a fluid (4) comprising at least one ultraviolet radiation source (2) and at least one duct (3) permeable to such radiation in which the fluid flows. The duct has a portion with helical shape (3a) around the ultraviolet radiation source (2) which is arranged in a chamber (1a) with walls having reflective surfaces. The distance between the walls and the helical portion is sufficient to allow an adequate circulation of air between them, whereby an excessive heating of the fluid is avoided. Moreover, at least the helical portion of the duct has an elliptical-shaped passage section (5) with major axis perpendicular to the irradiation direction to reduce the thickness of the fluid exposed to radiation and thus increase the treatment efficiency.